REMARKS

In response to a Final Office Action dated December 29, 2004, the Applicant is filing a Request for Continued Examination pursuant to 37 C.F.R. § 1.114. At the time of the Final Office Action, claims 1-3, 5-17, 19-21 and 23-25 were pending. In this Preliminary Amendment, claims 2 and 9 are canceled (claims 4, 18 and 22 were canceled in previous prosecution) and claims 1, 5, 8, 12, 14, 15, 20 and 23 are being amended. Accordingly, claims 1, 3, 5-8, 10-17, 19-21 and 23-25 are currently pending.

In the Office Action, claims 15 and 19 were rejected under 35 U.S.C. 35 § 102(e) based on U.S. Patent No. 6,285,350 to Ijntema et al. ("the Ijntema reference"). Claims 20, 21 and 23-25 were rejected under 35 U.S.C. 35 § 103(a) based on U.S. Patent No. 5,489,996 to Oku et al. ("the Oku reference"). Additionally, claims 1-2, 5, 7-9 and 14 were rejected under 35 U.S.C. § 103(a) as being rendered obvious by Ijntema in view of Oku. Claims 3 and 11 were rejected under 35 U.S.C. § 103(a) as being rendered obvious by Ijntema in view of Oku and U.S. Patent Application No. 2002/0085015 to Wilt et al. ("the Wilt reference"). Claims 6 and 10 were rejected under 35 U.S.C. § 103(a) as being rendered obvious by Ijntema in view of Oku and U.S. Patent Application No. 2002/0161803 to Shelton ("the Shelton reference"). Claim 16 was rejected under 35 U.S.C. § 103(a) as being rendered obvious by Ijntema in view of Shelton, while claim 17 was rejected under 35 U.S.C. § 103(a) as being rendered obvious by Ijntema in view of Wilt. Each of these rejections is addressed in detail below.

Rejection Under 35 U.S.C. § 102 based on Ijntema

As set forth above, claims 15 and 19 were rejected under 35 U.S.C. § 102(e) as being anticipated by on the Ijntema reference. Specifically, with regard to independent claim 15, the Examiner stated:

As per claim 15, Ijntema et al., hereinafter Ijntema, discloses a hardware-implemented method of color video data correction filtering, comprising the steps of:

gamma decompensating input color video data referenced to a non-linear color space ("To fully compensate the color errors, the RGB signals have to be linearized by compensating for the gamma correction applied in the camera", column 2, line 31-33);

compensating for color point data of a plurality of constituent colors of a color monitor by applying a plurality of pre-calculated gamut shifting arrays corresponding to the color point data, each of the plurality of pre-calculated gamut shifting arrays corresponding to a multiplication look-up table (MLUT) comprising pre-calculated values that represent specific multiplication operations ("a transformation of the RGB signals with a 3x3 matrix can be done", column2, line 34, since a matrix operation includes both multiplication and addition operations, it represents a specific multiplication operation); and

compensating the color point data after application of the plurality of pre-calculated gamut shifting arrays for non-linearities of the color monitor by applying a plurality of non-linearization tables to the color point data to produce output color video data compensated for non-linearities and color points of the color monitor ("Finally, the gamma correction has to be applied again", column2, line36; "The characteristics could be stored in a LUT", column 2, line 59).

Official Action, pages 2-3.

Further, in the "Response to Arguments" section, the Examiner stated:

As per claim 15 and 19, applicant alleges Ijntema does not disclose the use of a plurality of pre-calculated gamut shifting arrays corresponding to a multiplication look-up table (MLUT) comprising pre-calculated values that represent specific multiplication operations. In reply, examiner considers a 3x3 matrix is the gamut shifting array used to compensate for color point data and the LUT storing the characteristics (column 2, line 59) the non-linearization table, and since a matrix operation includes both multiplication and addition operations, it represents a specific multiplication operation.

> As per claims 1-14 and 16-18, applicant alleges since Ijntema does not satisfy limitations as discussed above, therefore, 35 U.S.C. 103 rejection is defective. In reply, examiner considers Ijntema satisfies claimed limitations.
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> Official Action, page 15.

The Applicant respectfully traverses the rejection. Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). In order to maintain a proper rejection under section 102, a single reference must teach each and every element or step of the rejected claim, else the reference falls under section 103. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984).

Additionally, if the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *See In re Robertson,* 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. *See id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or sound and supportable technical reasoning to support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *See Ex parte Levy,* 17 U.S.P.Q.2d 1461, 1464 (B.P.A.I. 1990). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.* Regarding functional limitations, the Examiner must evaluate and consider the functional

limitation, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. *See* M.P.E.P. § 2173.05(g); *In re Swinehart*, 169 U.S.P.Q. 226, 229 (C.C.P.A. 1971); *In re Schreiber*, 44 U.S.P.Q.2d 1429, 1432 (Fed. Cir. 1997). If the Examiner believes the functional limitation to be inherent in the cited reference, then the Examiner "must provide some evidence or scientific reasoning to establish the reasonableness of the examiner's belief that the functional limitation is an inherent characteristic of the prior art." *Ex parte Skinner,* 2 U.S.P.Q.2d 1788, 1789 (B.P.A.I. 1986).

Independent claim 15 recites act of "*retrieving monitor specific color characteristics and monitor specific input-output characteristics from a monitor profile.*" (Emphasis added). The Ijntema reference does not disclose or suggest at least this recited feature.

The Ijntema reference describes an apparatus for compensating for color deviations. *See* Ijntema, col. 1, lines 50-54. This system compensates by utilizing gamma correction, as set forth in the following passage:

> To fully compensate the color errors, the RGB signals have to be linearized by compensating for the gamma correction applied in the camera (i.e., R^{λ}, etc.). Then, a transformation of the RGB signals with a 3x3 matrix can be done. Finally, the gamma correction has to be applied again (i.e., $R^{1/\lambda}$, etc.). The matrix coefficients depend on the panel transmission.
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> A digital implementation in a programmable video signal processor (VSP) has been used to prove the feasibility of the concept. The main task of the VSP is to amplify the digitized RGB signals by a constant factor in such a way that the white point is always correct for various transmissivities of the panel. The characteristics of the panel were measured for 5 different applied voltages. For voltages which are not measured, the characteristics were simply interpolated. A PC computed the correct white point settings as function of the applied voltage, and modified the amplification factors in the VSP. The

> transmissivity of the panel was adjusted as function of the ambient light. The ambient light was measured with a photo-diode with a sensitivity close to the eye-sensitivity. The relation between the ambient illumination and the transmission of the panel was non-linear. The results were promising.
>
> A cheaper solution can be obtained by using analog RGB amplifiers with adjustable gains or by using a customized digital implementation. The gains are changed as function of the applied voltage (transmissivity) of the panel. The characteristics could be stored in a LUT.
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> Ijntema, col. 2 lines 31-59.

Accordingly, in this passage, the Ijntema reference describes compensating for the color errors in a camera. Ijntema transforms the RGB signals by applying a 3x3 matrix. *See id.* at col. 2, lines 34-35. Once the 3x3 matrix is applied, gamma correction is applied again to the transformed signals.

However, Ijntema completely fails to disclose "retrieving monitor specific color characteristics and monitor specific input-output characteristics from a monitor profile." Ijntema is completely silent as to the source of its color correction information. It does not teach a monitor profile at all. Accordingly, Ijntema necessarily fails to teach, suggest or illustrate the desirability of retrieving "monitor specific color characteristics and monitor specific input-output characteristics" from such a monitor profile. For at least these reasons, Ijntema fails to anticipate claims 15 and 19. The Applicant therefore respectfully requests withdrawal of the rejection of claims 15 and 19 under Section 102 based on Ijntema.

Rejection Under 35 U.S.C. § 103 based on Oku

As set forth above, claims 20, 21 and 23-25 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Oku reference. Specifically, with regard to independent claim 20, the Examiner stated:

> As per claim 20, Oku et al, hereinafter Oku, discloses a color correction system, comprising:
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> a color filter that receives image data and produces color video data (Figure 5 37 the First Color Correction Unit is considered a color filter because it "normalizes input image signals and converts them to the data signals in a region suitable for the color adjustment for the input image signals, and makes the color adjustment", column 6, line 59-62);
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> a color point correction system that receives the color video data and produces color point corrected video data (Figure 5 44 the 2nd Color Correction Unit); and
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> a non-linearity correction system that receives the color point corrected video data and produces non-linearity corrected video data (Figure 5 48 3rd Color Correction Unit which compensates for the non-uniformity of recording materials), wherein the color point correction system comprises a plurality of multiplication look-uptables (MLUTs) associated with a plurality of pre-calculated gamut shifting arrays to compensate for color point data ("the input data normalizing unit 56 receives the image data from the host computer, and converts them into R, G, and B data each consisting of eight bits, through gradation converting tables LUT1-1 61, LUT 1-2 62 and LUT1-3 63", column 7, line 33-37; "The color adjustment unit 57 matrix-calculates the output data R1 (58), G1 (59), and B1 (60), thereby to execute the color adjustment", column 8, line 1-3, where the matrix operation has multiplication process, therefore, the LUT is a MLUT).
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> Oku discloses a color correcting system. It is noted that Oku does not explicitly disclose compensation for color point data is at substantially full video rate, however, since processing data near full video rate is desirable for viewing video in real time, it would have been obvious to one ordinary skill in the art to try to do so in order to view the video in real time.

Official Action, pages 4-5.

The Applicant respectfully traverses this rejection. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination or modification includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Oku cannot render obvious independent claim 20 or the claims dependent thereon because Oku does not include each and every element recited in the claim. As amended,

claim 20 recites, "a monitor profile that comprises monitor specific color characteristics and monitor specific input-output characteristics." As set forth below, Oku does not disclose this recitation.

The Oku reference describes an image recording apparatus for correcting color of image signals. *See* Oku, col. 2, lines 38-52. The image recording apparatus of Oku utilizes a table to prevent the use of large amounts of memory. *See* Oku, col. 2, lines 12-20. Accordingly, in the Oku reference, a first color correction unit 37, a second color correction unit 44 and a third color correction unit 48 are components of a color correction processor 22. *See id.* at Fig. 5. The first color correction unit 37 and third color correction unit 48 utilize LUTs to normalize the image signals. *See id.* at col. 7, lines 25-30; col. 13, line 58 to col. 14, line 4. The second color correction unit 44 nonlinearly maps the combination of the input signals, as set forth in the following passage:

> The second color correction unit 44 nonlinearly maps the combination of the input signals R', G', and B' (38), (39), and (40) to the combination of the output signals R", G", and B" 45, 46, and 47 by using a three-dimensional LUT in order that the gradation and the color reproduction on the color CRT screen are visually equivalent to those of the printed picture. The principle of the mapping will first be described.
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> Oku, col. 9 lines 56-63.

In this passage, the Oku reference describes utilizing a three-dimensional LUT to correct the color to be equivalent to those of the printed picture. Then, once the three-dimensional matrix is applied, the image signals are again normalized. But Oku, like Ijntema, fails to disclose the recitation of "*a monitor profile*" that stores information for use in performing color correction operations. In addition, Oku does not disclose the use of monitor specific color characteristics or monitor specific input-output characteristics to perform color

correction. Moreover, Oku is utterly devoid of any teaching, suggestion or illustration regarding the recited limitations. Accordingly, Oku cannot render claim 20 obvious. For at least these reasons, the Applicant respectfully requests withdrawal of the rejection of claims 20, 21 and 23-25 under Section 103 based on Oku.

Additional Rejections Under 35 U.S.C. § 103

The Examiner rejected the remainder of the claims (independent claims 1 and 8, and dependent claims 3, 5-7, 10-14, 16 and 17) under 35 U.S.C. § 103(a) as being obvious based on Ijntema and/or Oku in combination with each other or with additional references. The Applicant respectfully asserts that those rejections are not proper with respect to the amended claims for at least the same reasons discussed above.

Independent claims 1 and 8 both recite "*a monitor profile that comprises monitor specific color characteristics and monitor specific input-output characteristics.*" As set forth above with respect to the rejection of claims 15 and 19 under Section 102 based on Ijntema and the rejection of claims 20, 21 and 23-25 under Section 103 based on Oku, neither Ijntema nor Oku discloses the recited elements. This deficiency is not cured by any of the supporting references (Wilt and Shelton). Accordingly, the Applicant respectfully asserts that the rejections of claims 1, 3, 5-8, 10-14, 16 and 17 under Section 103 are erroneous and should be withdrawn.

Conclusion

In view of the remarks set forth above, the Applicant respectfully requests withdrawal of all of the Examiner's rejections. Furthermore, the Applicant asserts that an indication of the allowability of claims 1, 3, 5-8, 10-17, 19-21 and 23-25 is appropriate. If the Examiner

believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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